WHAT IS CLAIMED IS:

1. A flying object navigation system comprising a base station capable of storing information provided as common information for navigation of at least one flying object existing as a navigation object, said base station transmitting to said flying object necessary data from said information for determining a course of action to be taken by said flying object, on the basis of observation data from meteorological observation means for observing the meteorology of a space region in which said flying object is flying, said base station transmitting said necessary data by using communication means connected to said flying object.

2. A flying object navigation system according to claim 1, further comprising a flying object having said meteorological observation means, transmitting means for transmitting, to said base station, observation data obtained through observation by said meteorological observation means, and receiving means for receiving necessary data for determining a course of action to be taken, the necessary data being transmitted from said base station by using said communication means.

3. A flying object navigation system according to claim 1, wherein said base station has a memory for storing data sets

constituted of all observation data obtained in the past through observation by said meteorological observation means, records of courses of action taken by said flying object on the basis of the observation data, and records of events encountered by said flying object as a result of the records of the courses of action.

4. A flying object navigation system according to claim 3, wherein said base station has a data base which is constructed on the basis of the contents of said data sets stored on said memory, and in which observation data obtained through observation by said meteorological observation means, a course of action taken by said flying object after meteorological observation, and an event encountered by said flying object as a result of taking the course of action are related to each other.

5. A flying object navigation system according to claim 4, wherein said base station has:

a receiving section for receiving, through said communication means, observation data obtained through observation by said meteorological observation means;

a prediction section for predicting the relationship between a course of action taken by said flying object and an event encountered by said flying object as a result of taking the course of action by making a search to ascertain which

case in said data base the received observation data corresponds to; and

a transmitting section for transmitting a prediction result obtained by said prediction section to said flying object through said communication means.

6. A flying object navigation system according to claim 5, wherein said base station has a function of successively storing, when data sets are newly formed, the new data sets on said memory, and a function of reconstructing said data base from the older data sets and the new data sets successively stored.

7. A flying object navigation system according to claim 5, wherein said base station transmits a signal for operating said flying object to control the operation of said flying object.

8. A flying object navigation system comprising a flying object navigation system according to claim 1, wherein said system is provided on each of a plurality of different stars, and said base stations (Aß) respectively provided on the stars are connected by base station interconnection communication means.

9. A flying object navigation system comprising a flying object navigation system according to claim 1, wherein said system is provided on each of a plurality of different stars, a central base station is provided among the plurality of

stars, and said base stations respectively provided on the stars are connected to each other through said central base station.

10. A flying object navigation system according to claim 1, wherein a plurality of said base stations are provided on one star.

11. A flying object navigation system according to claim 10, wherein the plurality of said base stations provided on each star are connected to each other through base station interconnection communication means, and that, every time said data base is reconstructed, the data sets and the data base are transmitted between said base stations.

12. A flying object navigation system according to claim 1, wherein each of said base station and said flying object has an antenna, and each of said communication means and said base station interconnection communication means performs wireless communication.

13. A flying object navigation system according to claim 1, wherein said flying object is an airplane.

14. A flying object navigation system according to claim 1, wherein said meteorological observation means comprises an air turbulence observation apparatus.

15. A flying object navigation system according to claim 1, wherein an event encountered by said flying object includes

changes in wind velocity with time in vertical and/or horizontal directions acting on said flying object.

16. A flying object navigation system according to claim 12, wherein said communication means for performing wireless communication uses light waves.

17. A flying object navigation system according to claim 12, wherein a plurality of said base stations are provided on one star and are connected by a base station interconnection cable.

18. A flying object navigation system according to claim 17, wherein said base station interconnection cable is formed of an optical fiber cable.

19. A flying object navigation system according to claim 14, wherein said air turbulence detector comprises a laser radar air turbulence detector.

20. A flying object navigation system according to claim 19, wherein said laser radar air turbulence detector has functions of transmitting laser light, receiving, as a received signal, scattered light caused by scattering of the laser light in the air, and observing the wind velocity from the Doppler effect in the received signal.

21. A flying object navigation system according to claim 19, characterized in that said laser radar air turbulence detector has functions of transmitting laser light, receiving, as a received signal, scattered light caused by scattering of the

laser light in the air, and observing the density of air from the intensity of the received signal.

22. A flying object navigation system comprising:

at least one flying object existing as a navigation object;

meteorological observation means for observing the meteorology of a space region in which said flying object is flying; and

flying object interconnection means for interconnecting a plurality of said flying objects,

characterized in that information provided as common information for navigation of said flying objects is stored in each of said flying objects, and a course of action to be taken by each of said flying objects is determined on the basis of said information and observation data from said meteorological observation means.

23. A flying object navigation system according to claim 22, characterized in that said meteorological observation means is mounted on said flying object.

24. A flying object navigation system according to claim 23, characterized in that said flying object has a memory for storing data sets constituted of all observation data obtained in the past through observation by said meteorological observation means mounted on said at least one flying object,

records of courses of action taken by said flying object on the basis of the observation data, and records of events encountered by said flying object as a result of the records of the courses of action.

25. A flying object navigation system according to claim 24, characterized in that said flying object has a data base which is constructed on the basis of the contents of said data sets stored on said memory, and in which observation data obtained through observation by said meteorological observation means, a course of action taken by said flying object after meteorological observation, and an event encountered by said flying object as a result of taking the course of action are related to each other.

26. A flying object navigation system according to claim 25, characterized in that said flying object has:

a prediction section for predicting the relationship between a course of action taken by said flying object and an event encountered by said flying object as a result of taking the course of action by making a search to ascertain which case in said data base the received observation data obtained through observation by said meteorological observation means corresponds to; and

a transmitting section for transmitting a prediction result obtained by said prediction section to another flying

object through said flying object interconnection communication means.

27. A flying object navigation system according to claim 26, characterized in that said flying object has a function of successively storing on said memory data sets each constituted of observation data obtained through observation by said meteorological observation means mounted on said flying object or another flying object, a record of a course of action taken by said flying object or the other flying object on the basis of the observation data, and an event actually encountered by said flying object or the other flying object as a result of the record of the course of action, and a function of reconstructing said data base from updated data sets obtained by combining the older data sets and the new data sets successively stored.

28. A flying object navigation system according to claim 22, characterized in that said system is provided on each of a plurality of different stars, and said flying objects flying respectively near the stars are connected by said flying object interconnection communication means.

29. A flying object navigation system according to claim 22, characterized in that said system is provided on each of a plurality of different stars, a central base station is provided among the plurality of stars, and said flying objects

flying respectively near the stars are connected to each other through said central base station.

30. A flying object navigation system according to claim 22, characterized in that said flying object has an antenna, and said flying object interconnection communication means performs wireless communication.

31. A flying object navigation system according to claim 22, characterized in that said flying object is an airplane.

32. A flying object navigation system according to claim 22, characterized in that said meteorological observation means comprises an air turbulence observation apparatus.

33. A flying object navigation system according to claim 32, characterized in that an event encountered by said flying object includes changes in wind velocity with time in vertical and horizontal directions acting on said flying object.

34. A flying object navigation system according to claim 32, characterized in that said flying object interconnection communication means for performing wireless communication uses light waves.

35. A flying object navigation system according to claim 32, characterized in that said air turbulence detector comprises a laser radar air turbulence detector.

36. A flying object navigation system according to claim 35, characterized in that said laser radar air turbulence detector

has functions of transmitting laser light, receiving, as a received signal, scattered light caused by scattering of the laser light in the air, and observing the wind velocity from the Doppler effect in the received signal.

37. A flying object navigation system according to claim 35, characterized in that said laser radar air turbulence detector has functions of transmitting laser light, receiving, as a received signal, scattered light caused by scattering of the laser light in the air, and observing the density of air from the intensity of the received signal.

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